APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/580,559	05/30/2000	Motoo Nishihara	Q59423	1590

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EXAMINER
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ART UNIT	PAPER NUMBER
2667	5

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	**Applicant(s)**
Office Action Summary	09/580,559	NISHIHARA, MOTOO
	Examiner	**Art Unit**
	Kwang B. Yao	2667

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _30 May 2000_.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
   closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-22_ is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-15 and 17-22_ is/are rejected.

7)☒ Claim(s) _16_ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a)☒ All b)☐ Some * c)☐ None of:
      1.☒ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
         application from the International Bureau (PCT Rule 17.2(a)).
   * See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application)
   since a specific reference was included in the first sentence of the specification or in an Application Data Sheet.
   37 CFR 1.78.
   a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific
   reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)   4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)   5) ☐ Notice of Informal Patent Application (PTO-152)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _2,4_ .   6) ☐ Other: .

DETAILED ACTION

Priority

1.   Acknowledgment is made of applicant's claim for priority under 35 U.S.C. 119(a)-(d)

based upon an application filed in Japan on 1/6/99. A claim for priority under 35 U.S.C. 119(a)-

(d) cannot be based on said application, since the United States application was filed more than

twelve months thereafter.

Claim Objections

2.   Claim 18 is objected to because of the following informalities: claim 18, line 4, it

appears that the limitation of "said packet transfer apparatus of claim 7" is a typo, and claim 18

appears to be an independent claim rather than dependent claim. Appropriate correction is

required.

Claim Rejections - 35 USC § 102

3.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United
> States before the invention thereof by the applicant for patent, or on an international application by another who
> has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention
> thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999

(AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002

do not apply when the reference is a U.S. patent resulting directly or indirectly from an

international application filed before November 29, 2000. Therefore, the prior art date of the

reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA

35 U.S.C. 102(e)).

4.   Claims 1-3, 5-9, 12, 15, 17, 18-22 are rejected under 35 U.S.C. 102(e) as being

anticipated by Vargo et al. (US 6,477,164).

        Vargo et al. discloses a system for real-time data and voice transmission comprising the

following features: regarding claim 1, depicted in Fig. 1, causing a transmission-source access

network (114) to generate a packet to be transferred to a destination access network (116) and

transmit the packet to a transmission-source packet transfer apparatus (124) connected to the

transmission-source access network (114); causing the transmission-source packet transfer

apparatus (124) to convert the packet transmitted from the transmission-source access network

(114) into a superpacket (Fig. 4) having a length n times, n is an integer of not less than 2, larger

than a fixed-length cell as a switching unit of relay means arranged on a network serving as a

backbone, and send the superpacket to the network (132); causing the network to relay the

superpacket (Fig. 4) using the relay means and transfer the superpacket to a destination packet

transfer apparatus (126) connected to the destination access network (116); and causing the

destination packet transfer apparatus (126) to reassemble the packet generated by the

transmission-source access network (140) on the basis of the superpacket transferred from the

network (132) and send the packet to the destination access network (116); regarding claim 2,

causing the transmission-source packet transfer apparatus (124) to individually store (Fig. 6, 602)

the transmitted packets in units of destination packet transfer apparatuses (126), form the

superpacket for each destination packet transfer apparatus (126), and send the superpacket to the

network (132), and causing the destination packet transfer apparatus (126) to individually store

the superpackets transferred from the network in units of transmission-source packet transfer

apparatuses (124) and reassemble the packet for each transmission-source packet transfer

apparatus (124); regarding claim 3, causing the transmission-source packet transfer apparatus

(124) to detect for each destination packet transfer apparatus (126) that the superpacket is not

formed for a first time-out time (column 6, lines 35-52), and if a packet is stored in association

with the destination packet transfer apparatus without construction, form the superpacket from

the packet and send the superpacket (Fig. 4) to the network; regarding claim 5, when the packet

transmitted from the transmission-source access network (114) crosses a plurality of

superpackets, causing the transmission-source packet transfer apparatus (124) to divisionally

send the packet to the network using the plurality of superpackets, and when the packet in the

superpacket transferred from the network crosses a plurality of superpackets, causing the

destination packet transfer apparatus (126) to connect packet data crossing the plurality of

superpackets to reassemble the original packet generated by the transmission-source access

network (114) and send the packet to the destination access network (126); regarding claim 6,

causing the transmission-source packet transfer apparatus to store (Fig. 6, 602), as a

transmission-source address and destination address in a header of the superpacket (Fig. 4),

unique network addresses defined only in the network and assigned to the transmission-source

packet transfer apparatus and the destination packet transfer apparatus, respectively, and send the

superpacket to the network, and causing each relay means in the network to look up (Fig. 6, 606,

and Fig. 7) the header of the transferred superpacket to specify a relay destination of the

superpacket in accordance with the network address assigned to the destination packet transfer

apparatus and transfer the superpacket to the destination packet transfer apparatus; regarding

claim 7, forming means (Fig. 6, 604, and Fig. 8) for converting the packet into a superpacket

having a length n times, n is an integer of not less than 2, larger than a fixed-length cell as a

switching unit of the relay means, and sending the superpacket to the network (132); and

reassembler means (Fig. 9, 916, 918) for extracting the packet from the superpacket (Fig. 4) sent

from the network and sending the packet (Fig. 9, 920) to the access network; regarding claim 8,

wherein the forming means comprises first storage means (Fig. 6, 602) having queues for storing

the packets in units of packet transfer apparatuses arranged between the network and an access

network as a destination of the packet, stores the packets in the queues in units of destinations,

detects (Fig. 6, 604) that packets in number necessary for formation of the superpacket are

stored, and extracts (Fig. 6, 604) the packets from the queue to form the superpacket; regarding

claim 9, wherein the construction means comprises, for each queue on the first storage means

(Fig. 6, 602), first time count means for starting time counting every time the superpacket is

formed and detecting an elapse of a first time-out time from the time count start time, and when

the elapse of the first time-out time is detected, forms the superpacket from the packets stored in

the queue (column 6, lines 35-52); regarding claim 12, the reassembler means (Fig. 6, 608)

comprises second storage means having queues (Fig. 6, 608) for storing the superpackets in units

of packet transfer apparatuses arranged between the network and a transmission-source access

network, stores the superpacket in the queue, and reassembles the packet from the stored

superpacket; regarding claim 15, the forming means detects that the packet crosses a plurality of

superpackets and divisionally stores the packet in the plurality of superpackets, and the

reassembler means detects that the packet on the superpacket crosses a plurality of superpacket

and links packet data divisionally stored in the plurality of superpackets to reassemble the

original packet generated by the transmission-source access network (Fig. 9, 904, 906, 908, 910);

regarding claim 17, wherein a header of the superpacket has the same format as that of a header

of the packet (Fig. 4); regarding claim 18, an access network for transmitting/receiving a packet

(124); relay means (132) for relaying the packet; and a network (132) serving as a backbone for

transferring a superpacket (Fig. 4) having a length n times, n is an integer of not less than 2,

larger than a fixed-length cell as a switching unit of the relay means, wherein the packet transfer

apparatus (124) performs mutual conversion between the packet transmitted/received by the

access network and the superpacket transferred on the network and transfers the packet

transmitted from a transmission-source access network (114) to a destination access network

(116) in a form of the superpacket (Fig. 4) through the relay means in the network; regarding

claim 19, wherein the packet transfer apparatus (124) and the relay means are assigned unique

network addresses (Fig. 4) defined only in the network, and network addresses of packet transfer

apparatuses connected to the transmission-source (114) and destination access networks (116)

are stored in a header of the superpacket as a transmission-source address and destination

address; regarding claim 20, wherein for superpackets (Fig. 4) having the same destination

packet transfer apparatus, different network addresses are assigned to destination addresses in

headers of the superpackets in accordance with a type of destination access network connected to

the destination packet transfer apparatus; regarding claim 21, wherein the relay means comprises

a route search table (Fig. 7) which stores entries in at least number corresponding to the numbers

of the packet transfer apparatuses and relay means, each entry making a destination address in a

header of the superpacket correspond to a relay destination of the superpacket, and route search

means for searching the route search table on the basis of the destination address in the header of

the superpacket to specify the relay destination of the superpacket; regarding claim 22, wherein

for the same network flow as a traffic, through the relay means in the network, from the packet

transfer apparatus connected to the transmission-source access network (114) to the packet

transfer apparatus (124) connected to the destination access network (116), superpackets (Fig. 4)

corresponding to the same network flow have the same header. See column 3-9.

Claim Rejections - 35 USC § 103

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

6.   Claims 4, 10, 11, 13, 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Vargo et al. (US 6,477,164) in view of Miller et al. (US 6,247,058).

Vargo et al. discloses the claimed limitations above. Vargo et al. does not disclose the

following features: regarding claim 4, causing the destination packet transfer apparatus to detect

for each transmission-source packet transfer apparatus that the packet is not reassembled for a

second time-out time, and if a superpacket is stored in association with the transmission-source

packet transfer apparatus without reassembly, discard the superpacket; the first time-out time is

determined on the basis of a predetermined minimum band for each traffic on the network;

regarding claim 11, wherein the first time-out time is determined on the basis of a predetermined

allowable network delay time for each traffic on the network; regarding claim 13, wherein the

reassembler means comprises, for each queue on the second storage means, second time count

means for starting time counting every time the packet is reassembled and detecting an elapse of

a second time-out time from the time count start time, and when the elapse of the second time-

out time is detected, discards the superpacket staying in the queue; regarding claim 14, wherein

the second time-out time is determined on the basis of a predetermined minimum band or

maximum allowable value of network delay for each traffic on the network, delay distribution

time in the network, and predetermined protection time. Miller et al. discloses an apparatus for

processing network packets comprising the following features: regarding claim 4, causing the

destination packet transfer apparatus to detect for each transmission-source packet transfer

apparatus that the packet is not reassembled for a second time-out time (Fig. 9, 192), and if a

superpacket is stored in association with the transmission-source packet transfer apparatus

without reassembly, discard (Fig. 9, 200) the superpacket; the first time-out time is determined

on the basis of a predetermined minimum band for each traffic on the network (column 11, line

65 to column 12, line 15); regarding claim 11, wherein the first time-out time is determined on

the basis of a predetermined allowable network delay time for each traffic on the network

(column 6, line 59-64); regarding claim 13, wherein the reassembler means comprises, for each

queue on the second storage means, second time count means for starting time counting every

time the packet is reassembled and detecting an elapse of a second time-out time from the time

count start time, and when the elapse of the second time-out time is detected, discards the

superpacket staying in the queue (Fig. 9); regarding claim 14, wherein the second time-out time

is determined on the basis of a predetermined minimum band or maximum allowable value

(column 11, line 65 to column 12, line 15) of network delay for each traffic on the network,

delay distribution time (column 6, line 59-64) in the network, and predetermined protection time.

It would have been obvious to one of the ordinary skill in the art at the time of the invention to

modify the system of Vargo et al., by using the features, as taught by Miller et al., in order to

provide a reliable communication by reducing network congestion and conserving network

bandwidth. See Miller et al., column 4, lines 35-65.

Allowable Subject Matter

7.   Claim 16 is objected to as being dependent upon a rejected base claim, but would be

allowable if rewritten in independent form including all of the limitations of the base claim and

any intervening claims.

Conclusion

8.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

Pierson, Jr. (US 6,272,128) discloses a system for emulating a T1 link.

Kurobe et al. (US 6,233,251) discloses a multiplex system.

Birdwell et al. (US 6,172,972) discloses a method for encoding network data.

Kasslin et al. (US 6,075,789) discloses a system for connecting packet.

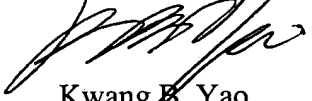Doshi et al. (US 5,936,965) discloses a method for transmission of data.

9.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Kwang B. Yao whose telephone number is 703-308-7583. The

examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Chi H Pham can be reached on 703-305-4378. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the receptionist whose telephone number is 703-305-3900.

KWANG BIN YAO
PRIMARY EXAMINER

Kwang B. Yao
December 11, 2003